

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016363**Date Inspected:** 10-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Qiu Wen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

BAY#10

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 11 located on North tower Lift-5 Grillage Assembly NSD1 – TL5 – 3B/F. Welder is identified as 066471. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC – U4c.

Weld joint # 6B located on South tower Lift-5 Grillage Assembly SSD1 – TL5 – 1B/F. Welder is identified as 057266. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC – U5b.

Weld joint # 1 located on Cable tray support B22 – 4 – EL143.770M – 1. Welder is identified as 056364. ZPMC Quality Control (QC) Inspector is identified as Deng Zhi Bing. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2113.

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Weld joint # 2 located on Cable tray support B22 – 4 – EL143.770M – 2. Welder is identified as 050038. ZPMC Quality Control (QC) Inspector is identified as Deng Zhi Bing. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2113.

### BAY#11

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 23 located on East tower Lift-5 Grillage Assembly ESD1 – TL5 – 2B/F. Welder is identified as 040611. ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC –U4c.

Weld joint # 7B located on East tower Lift-5 Grillage Assembly ESD1 – TL5 – 2B/F. Welder is identified as 040679. ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC –U5b.

### ORTHOTROPIC BOX GIRDER (OBG) AT BAY#11

This QA Inspector observed the following work in progress

Fluxcored Arc Welding (FCAW):

Weld joint # 68 located on Bike Path panel Assembly BK005A6– 003. Welder is identified as 053316. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2131.

Weld joint # 69 located on Bike Path panel Assembly BK005A6– 003. Welder is identified as 205649. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2133.

### BLAST SHOP

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 00450

This QA Inspector witnessed final Bolt tension verification approximately 10% for the Lift 2 Tower cross bracings of 53 and 77 meter elevations. Final tension verification found to be in general compliance.

Details of bolt size, RC Set # and final torque value are as follows:

Bolt sizes used were 3/4x33/4 inch, RC Set# DHGM 60625 and final torque value was 487 N-m.

Manual Torque wrench used with serial number noted as XO2-349.

### INTERNAL PRE-BLAST INSPECTION OF NORTH TOWER LIFT-2 FROM 83 M TO 77 M ELEVATION

During the internal pre-blast visual inspection on North tower Lift-2, this Quality Assurance Inspector (QA) discovered the defects required welding and Magnetic particle testing on weld and base material at the following locations:

- Skin 'C' – Porosity – Weld # NSD1 – TL5 H/L – 132 and 134.

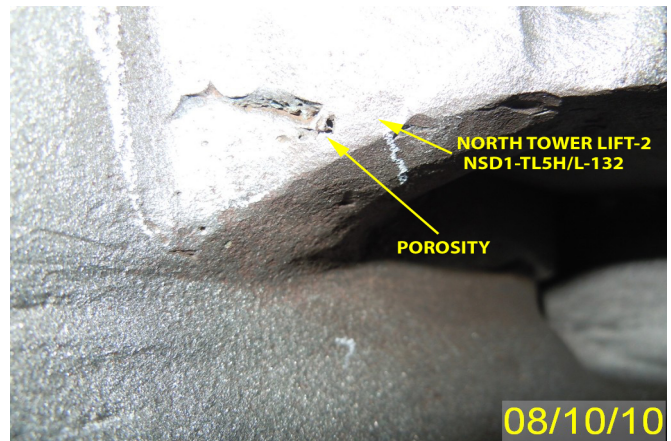
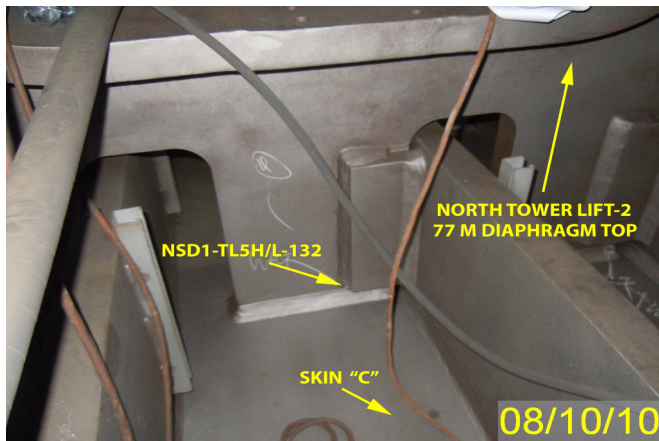
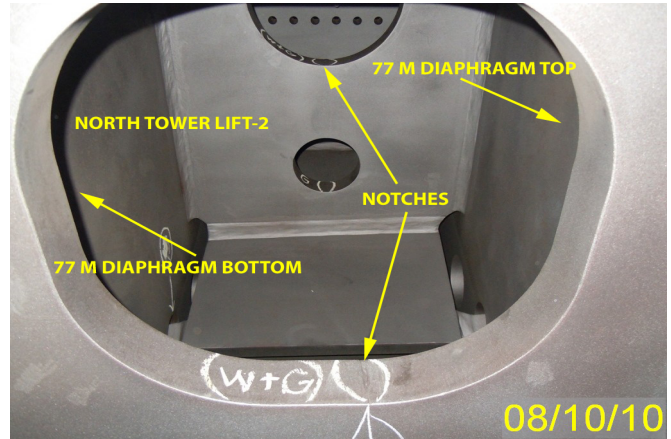
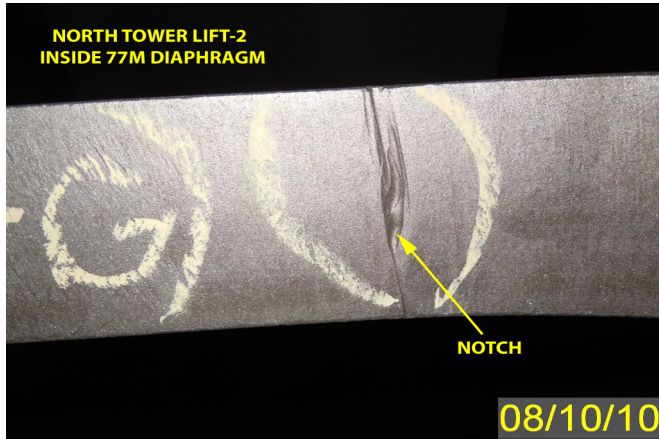
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- Skin 'D' – Porosity – Weld # NSD1 – TL5 H/L – 157 and 190.
- Skin 'E' – Porosity – Weld # NSD1 – TL5 H/L – 96.
- 77M Double Diaphragm – 2 notches between the diaphragm.

For further more information see attached pictures

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



## Summary of Conversations:

No Relevant Conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Michael Ng - 15921845703, who represents the Office of Structural Materials for your project.

**Inspected By:** Kumar,Sandeep  
**Reviewed By:** Clifford,William

**Quality Assurance Inspector**  
**QA Reviewer**